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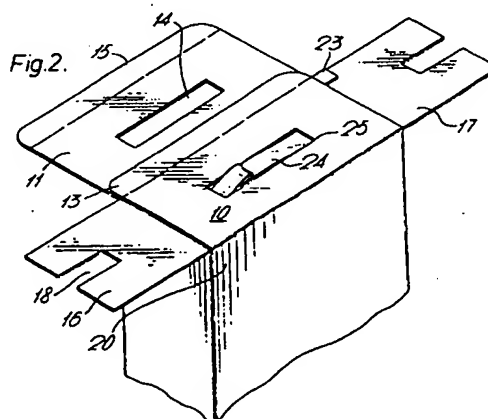
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54 Multi-kilo pack, primarily for detergent powder.

57 A so-called "multi-kilo" pack manufactured from card or board and primarily intended for carrying detergent powder. The pack is provided with a set of closing flaps (10), (11), (16), (17) which permit powder-proof closure and re-closure, at the same time affording ready opening and use of a carrying handle (24).



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MULTI-KILO PACK, PRIMARILY FOR DETERGENT POWDER

This invention relates to a pack for detergent powder, and in particular to a large volume pack commonly known in the trade as a multi-kilo pack.

Multi-kilo packs are now well known and are becoming
5 increasingly popular both with the consumer and with the manufacturer, for the economies which can be made by manufacturing and buying detergent powders in bulk. One of the disadvantages of these packs is that when full they are relatively heavy, and so it has become common for them to
10 be fitted with handles, so that they are easier to carry. For convenience in bulk storage the packs are generally made with a plastic handle, which prior to use lies collapsed beneath one of the closing flaps of the pack. One example of such a pack is shown in Swiss Patent No
15 451,004 (Unilever) and another in European Patent Application No 0,042,184 (Procter and Gamble).

It is very desirable that multi-kilo packs should be designed so that they exhibit three other features. First

and foremost they should be powder-tight when originally closed. Secondly they should be glued so that they are easily opened, and thirdly they should be re-closeable in such a manner that it is still possible to use the
5 collapsible handle. Neither of the designs disclosed are satisfactory in all of these respects.

We have now designed a new pack which is powder tight, readily opened and in which the collapsible handle is useable after re-closure.

10 Accordingly the invention provides a pack of substantially square or rectangular form having two pairs of opposing closing flaps, one flap (10) of a first pair (10, 11) being provided with a collapsible handle (12) and the other flap (11) of the pair being provided with an aperture (14)
15 arranged to expose the collapsible handle when the second flap is folded over the first, characterised in that one or both of the second pair of flaps (16, 17) is also provided with an aperture (18, 19) arranged to expose the handle (12) when either or both of the flaps (16, 17) is folded
20 over the first flap (10).

The advantage of the design specified is that it is possible to fold the second pair of flaps over the handle-bearing flap, rather than having to fold the second pair over the opening as a first step. The arrangement in
25 accordance with the invention gives a more complex path for powder to follow for it to leak out of the pack, and is consequently more powder-tight.

A strongly preferred feature of the invention is that the apertured flap (11) of the first pair of flaps should
30 carry a sub-flap (15) adapted to be sealed to the edge (20) of the pack when the flap is folded over the other flaps. This sub-flap is absent in some prior proposals, which results in the underside of the apertured flap having to be sealed, for example by glueing, to the other flaps, which
35 can make the pack difficult to open.

Conventional packs of detergent powder are wet-glued,

which makes them difficult to open, and we prefer that the sub-flap is sealed to the pack using a hot-melt (thermoplastic) glue, or with a combination of a wet-glue and a hot-melt one.

5 Another feature which is strongly preferred is that the handle-bearing flap (10) carries a sub-flap (13) adapted either to tuck into the pack when the flap (10) is folded over the opening, or to fold back over the flap. The ability to tuck the sub-flap (13) into the pack
10 facilitates re-closure. Additionally the presence of the sub-flap allows a further improvement to be made to the powder-tightness of the pack, as will be explained later.

The pack of the invention is further described with reference to and by means of the accompanying drawings in
15 which,

Figure 1 is a perspective view of a rectangular pack in accordance with the invention with all four of the closing flaps folded back, and

Figure 2 is a perspective view of the same pack with
20 the handle-bearing flap folded over the opening.

Referring first to Figure 1, a rectangular pack, formed from a cardboard or corrugated board blank, is formed with two pairs of opposing closing flaps (10)(11) and (15)(16). One of the flaps (10) of the first pair
25 (10)(11) is provided with a collapsible plastic handle attached to a cardboard backing (21), the handle lying in a recess formed in the underside of flap (10) which is not visible in Figure 1. The other flap (11) of the pair (10)(11) is formed with an aperture (14) designed to expose
30 the handle when flap (11) is folded over flap (10).

The second pair of opposing flaps (15)(16) are also provided with apertures (18)(19) for the same purpose.

Each of flaps (10) and (11) carry sub-flaps. The handle-bearing flap (10) carries sub-flap (13) which is
35 designed either to tuck into the opening (22) when the flap is folded over into a closing mode, or to fold back over

flap (10). Apertured flap (11) carries sub-flap (17) which is intended to be sealed against the edge (20) of the pack as the last step in a closing operation.

The pack is formed from a blank and glued into three-
5 dimensions using overlapping tab (23).

Referring now to Figure 2, flap (10), bearing handle (24) which is collapsed into recess (25) formed in the flap, is shown folded over the opening of the pack.

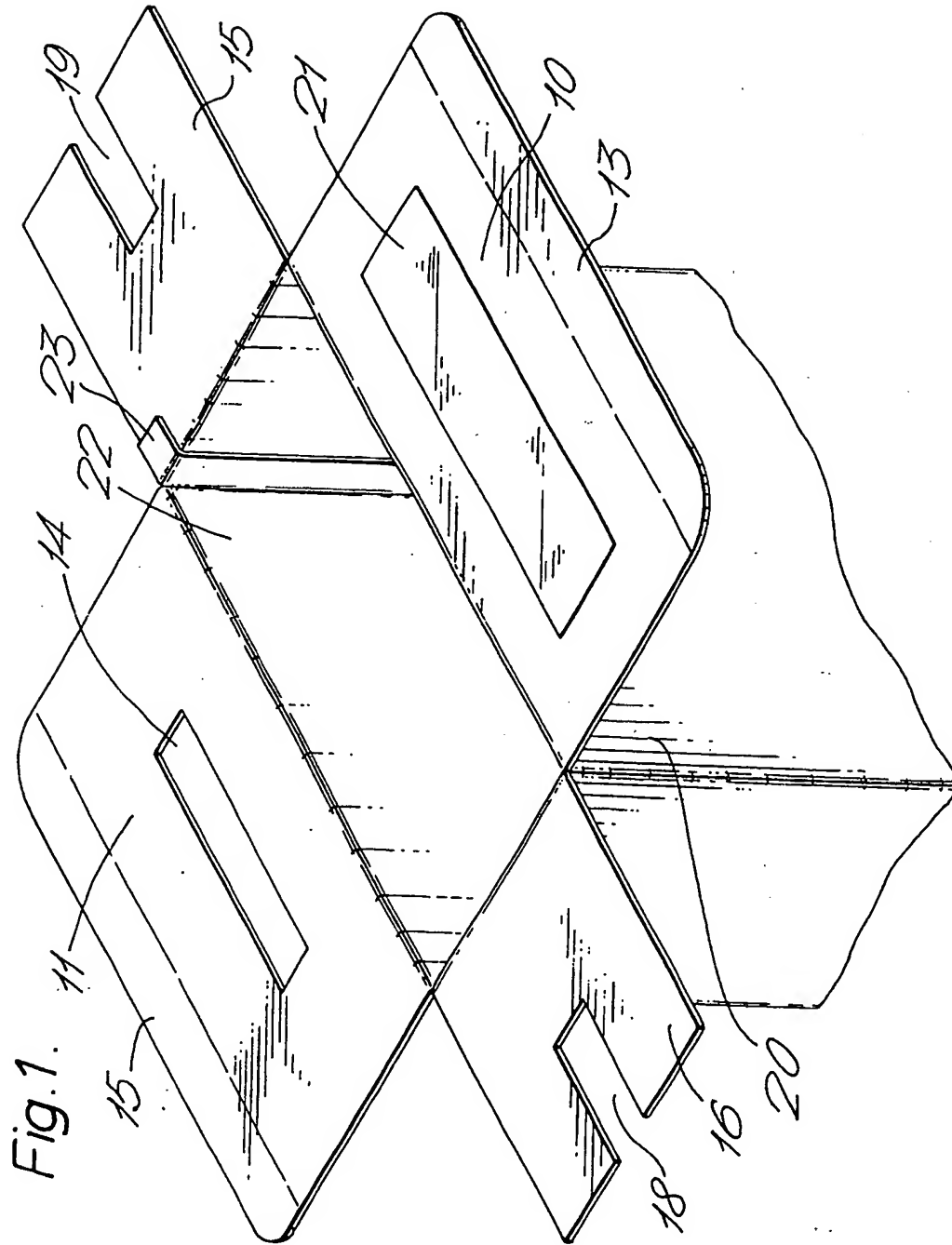
In order to seal the pack, flaps (15) and (16) are
10 folded over flap (10), sub-flap (13) is folded back over flaps (15) and (16), apertured flap (11) is folded over and sub-flap is sealed against the edge (20), of the pack.

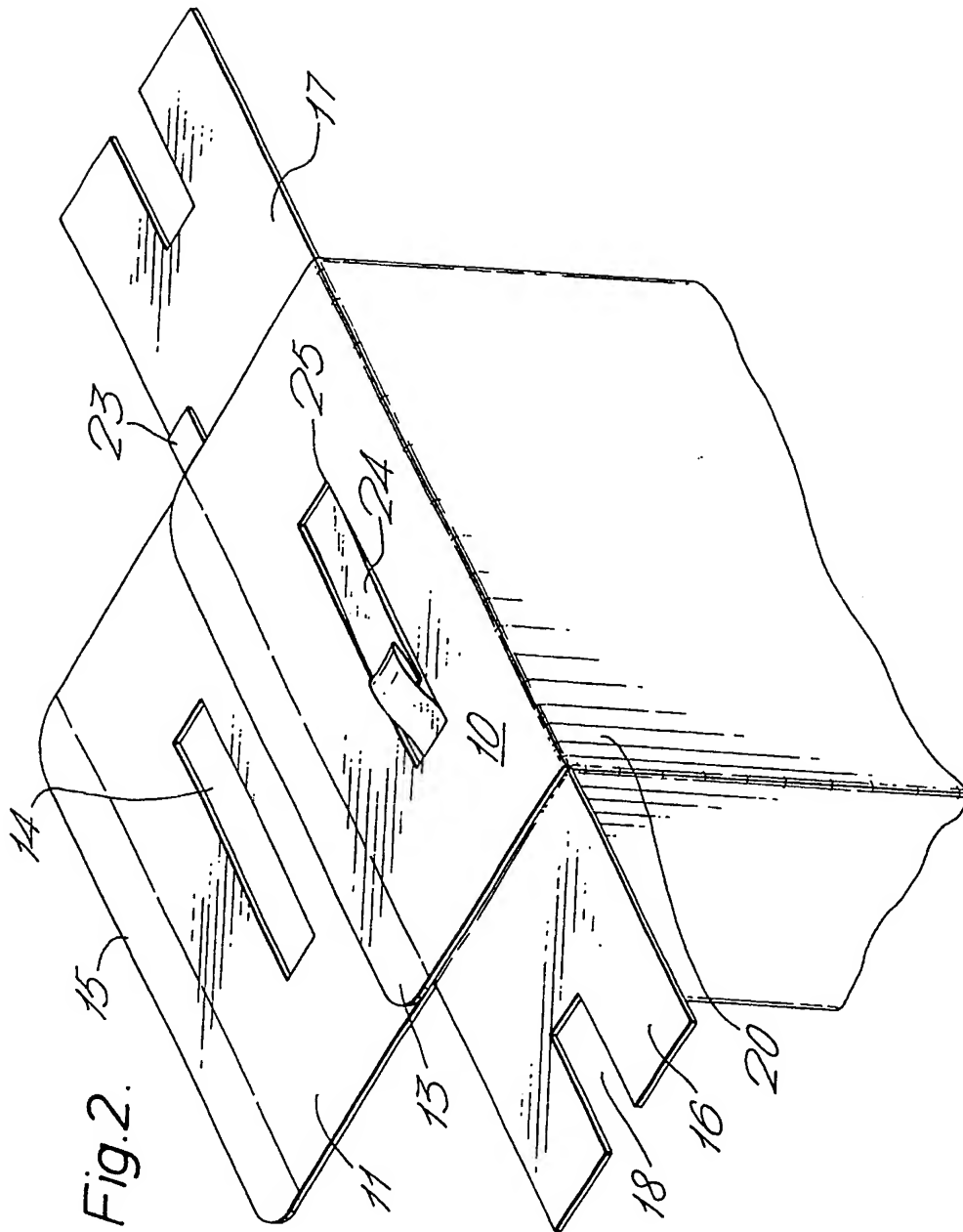
This forms a powder-tight, readily opened pack. After opening, the pack can be re-closed (although not sealed) by
15 tucking sub-flaps (15) and (16) followed by sub-flap (13) into the opening and folding the flaps over as before. When that is done the handle (24) can be used as if the pack were sealed.

The invention also comprises a sealed pack comprising
20 a cleaning powder, and a blank for the pack claimed, made, for instance of cardboard or corrugated board.

CLAIMS

1. A pack of substantially square or rectangular form having two pairs of opposing closing flaps, one flap (10) of a first pair (10, 11) being provided with a collapsible handle (12), and the other flap (11) of the pair being provided with an aperture (14) arranged to expose the collapsible handle when the second flap is folded over the first, characterised in that one or both of the second pair of flaps (16, 17) is provided with an aperture (18, 19) arranged to expose the handle (12) when either or both of the flaps (16, 17) is folded over the first flap (10).
2. A pack in accordance with claim 1, wherein the apertured flap (11) of the first pair carries a sub-flap (15) adapted to be sealed to an edge (20) of the pack when the flap is folded over the other flaps.
3. A pack in accordance with claim 1 or claim 2, sealed with a thermoplastic glue, or with a mixture of a wet glue and a thermoplastic one.
4. A pack in accordance with any preceding claim, wherein the handle-bearing flap (10) carries a sub-flap (13) adapted to tuck into the pack when the flap (10) is folded over the opening, or to fold back over the flap.
5. A pack in accordance with any preceding claim containing a cleaning powder.
6. A blank for a pack in accordance with any preceding claim.







European Patent
Office

EUROPEAN SEARCH REPORT

0087933
Application number

EP 83 30 0983

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
Y	BE-A- 712 332 (R.FISSLER KOMMANDIT GESELLSCHAFT) *Figure*	1,3-6	B 65 D 5/46 B 65 D 5/02
D,Y	--- EP-A-0 042 184 (VAN LAER) *Figure 8; page 1, lines 10-12; page 6, lines 30-35*	1,3-6	
A	--- US-A-3 030 002 (RINGLER) *Figures 4,5; column 1, lines 9-13*	1,5,6	
A	--- US-A-3 885 732 (FOSTER) *Column 3, lines 39-41*	3,6	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			B 65 D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 01-05-1983	Examiner STEEGMAN R.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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